

FlexWave™ MMW 125 – Europe, Middle East, Africa Millimeter Wave Transmission System



FlexWave™ Millimeter Wave (MMW) is a point-to-point millimeter wave transmission system that operates in the licensed 71 GHz to 86 GHz spectrum and provides fiber-speed wireless Line of Sight (LOS) communication links within a 1 - 6 km range.

FlexWave MMW addresses the increasing shortage in metro access capacity by taking advantage of the recently allocated licensed 71-86 GHz spectrum. By using the unique propagation characteristics and the wide bandwidth of that spectrum, FlexWave MMW can support extremely high speed data transmission for short communication links.

FlexWave MMW provides fiber equivalent performance, 99.999% reliability and security, without the high installation costs and delays associated with inter-building fiber installations. FlexWave MMW can be engineered to operate in close proximity to other FlexWave systems so that many links can co-exist in the same vicinity without causing interference to one another. FlexWave MMW is driving Ethernet beyond the office and into the metro enabling the move towards a single, scalable, end-to-end communications technology.

Features:

- High availability (up to 99.999%)
- Best-in-class link performance
- High capacity (full duplex gigE performance)
- Reduced cost per bit due to the inherent cost- and data-efficiency of native Ethernet
- Same cost as microwave with 10 times higher bandwidth
- Simple and quick to install

SPEC SHEET



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Millimeter Wave Transmission System

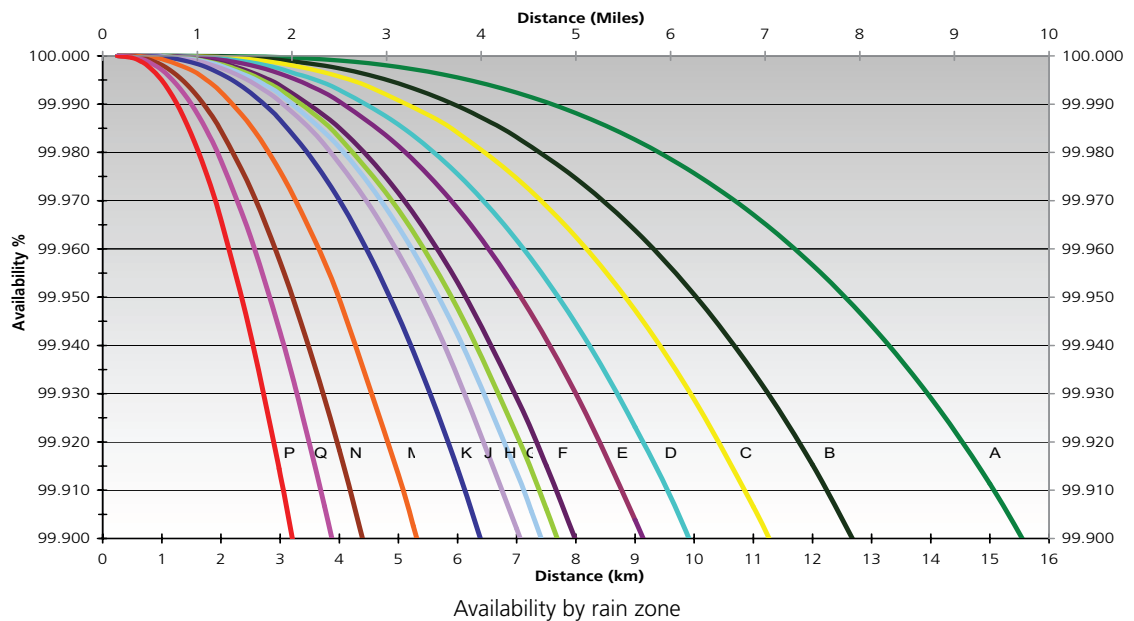
Applications

The FlexWave family of millimeter wave products addresses a wide variety of deployment requirements of carriers, enterprises, businesses, government, and educational institutions for high availability, cost efficient bandwidth services.

Applications		
Enterprise/Business	Carriers	Government/Educational
Campus connectivity	Cellular/mobile backhaul	Secure networks
Storage access networks	Wi-Fi backhaul	Emergency services
LAN and WAN extension	WiMAX backhaul	Disaster recovery
HDTV transmission	First/last mile access	Distance learning
Redundant links	Metropolitan area network	
	Wide area network access	
	Disaster/emergency recovery services	
	Fiber extension or bridge	

While previous wireless backhaul solutions were hampered by fog, dust, snow and even light rain, and as a result have not been able to attain the high availability required by carriers, equipment operating in the 70/80 GHz spectrum today is only affected by extreme heavy rainfall (i.e. > 100mm/hr (4in/hr).

The chart below shows the approximate link distance for the FlexWave MMW for each of the rain zones at various levels of availability.



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Europe, Middle East and Africa rain zones

Ordering Information

Description	Catalog Number
MMW System consisting of two radios providing full rate Gigabit Ethernet	
850nm MM optical interface for both radios	MMW-125-MM-SYS
1310nm SM optical interface for both radios	MMW-125-SM-SYS
Copper GBIC, RJ-45 Connectors for both radios	MMW-125-CU-SYS
Antennas	
One 1 ft (0.3 m) Parabolic Antenna with pole mount kit	MMW-ANT-1
One 2 ft (0.6 m) Parabolic Antenna with pole mount kit	MMW-ANT-2

Note: A complete MMW link consists of one MMW system plus two Antennas; MMW systems can be ordered with different network interfaces and different antennas sizes. For example one could order a MMW system with a single mode fiber interface and a 2 ft antenna on one end and a multimode interface and a 1 ft antenna on the other end.

Specifications

Frequency Band: 71 - 76 GHz; 81 - 86 GHz
RF Interface: FDD
Modulation: DBPSK
Frequency Source: Synthesizer
Configurations: Non-Protected
Hot Standby
Repeater
Mesh
Latency: <10 usec
Forward Error Correction: Reed Solomon

PHYSICAL (Including radio, antenna & mount)

	0.3 m /1 ft	0.6 m/2 ft
Weight:	11.79 kg (26.0 lbs)	15.42 kg (34 lbs)
Dimensions (WxHxD):	30 x 53 x 35.5 cm (12" x 21" x 14")	40.6 x 68.5 x 66 cm (16" x 27" x 26")

TRIBUTARY

Data Rate: 1250 Mbps full duplex (Gigabit Ethernet)
Standards Compliance: IEEE 802.3z
Interface Options: Fiber 850 nm Multi Mode, LC connector
Fiber 1310 nm, Single Mode, LC connector
1000Base-SX to 1000BaseT

ELECTRICAL

Input Voltage: -48 VDC (-40.5 to -57VDC)

ENVIRONMENTAL

Operating Temperature Range: -27° to +131°F (-33° to +55°C)
Altitude: 15,000 ft (4500 m)

MANAGEMENT

Craft Interface Embedded web based (HTML) server
EMS SNMP
Voltmeter testpoints for Received Signal Strength

REGULATORY

FCC: 1.1310 RF MPE limits
Part 101

ANTENNA

0.3 m/1ft	0.6 m/2 ft
43.8 dBi	51 dBi
<0.9°BW	<0.4°BW

Fine adjust pole mount fitting 6.35 cm (2.5") to 11.43 cm(4.5") OD

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Web Site: www.adc.com

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